

REMARKS

Claims 8, 11, 17, 20, 22 and 25 are presently in the application. Claims 1-7, 9, 10, 12-16, 18, 19, 21, 23, 24 and 26 have been canceled.

Claims 8, 11, 17, 20, 22 and 25 have been rejected under 35 USC 102(b) as anticipated by Majima et al (US 5,129,489). Reconsideration of the rejection is requested.

Claim 8 is directed to a valve for controlling fluids having a holder body including a receptacle containing a piezoelectric actuator unit and a hydraulic coupler module that has at least one positioning piston and at least one actuating piston that is operatively connected to the positioning piston via a hydraulic coupler and actuates a valve-closure member that cooperates with at least one valve seat and, in the closed position, prevents a flow of fluid from a valve chamber to a return conduit, a seal guiding the positioning piston in the receptacle, wherein the positioning piston comprises an annular collar and a positioning washer resting against a spring (47), and wherein the seal is disposed between the annular collar and the positioning washer. Support for the amendment can be found in para. [0039] of the specification.

Majima teaches a hydraulically operated displacement transmission mechanism for a shock absorber. As shown in FIG. 2, the shock absorber 41 comprises a cylinder 51 and a main piston 53 slidably fitted therein for movement in axial directions indicated by the arrows A, B. The interior space of the cylinder 51 is divided into first and second hydraulic pressure chambers 55, 57 by the main piston 53. The main piston 53 is coupled to one end of a piston

rod 59, the other end of which is connected to a shaft 61. The cylinder 51 has a lower end (not shown) connected to the suspension arm 11 which supports the front left road wheel 1. The shaft 61 has an upper end (not shown) coupled to the motor vehicle body 21. The piston rod 59 and the shaft 61 have an axial hollow storage chamber 67 defined therein that houses a piezoelectric actuator or stack 67FL. A piston 69 is disposed in closely confronting relation to the lower end of the piezoelectric stack 67FL with a seat 67a interposed therebetween. The piston 69 is axially slidable in the storage chamber 67, and is normally urged to move in the direction indicated by the arrow A by means of a leaf spring 69a acting on the lower end of the piston 69.

The lower end of piston 69 includes a groove (unnumbered) for receiving an O-ring seal 69b (see, Fig. 6). The bottom surface of the piston rod 59, which defines the storage chamber 67, and the lower surface of the piston 69 jointly define a hydraulic pressure chamber 71. A sleeve 71a is disposed vertically in the bottom of the hydraulic pressure chamber 71. The sleeve 71a has a central hole 71b extending in the axial direction of the piston rod 59, and a plunger 73 in the form of a rod is slidably fitted in the hole 71b. The plunger 73 has a lower end extending through an O-ring 75 which is positioned beneath the lower end of the sleeve 71a. The O-ring 75 is closely held against the lower end of the sleeve 71a and the plunger 73 by a closure plate 76 that is mounted on a lower surface of the piston rod 59. The lower end of the plunger 73 also extends through the center of the closure plate 76. A spool valve 77 is slidably fitted in a hole 71c of a circular cross section defined in the

piston rod 59. The hole 71c communicates coaxially with the hole 71b in the plunger 73, and is larger in diameter than the hole 71b. The spool valve 77 is normally urged by a spring 79 in the hole 71c to move in the direction indicated by the arrow A. The spool valve 77 has an annular groove 77b defined in a lower outer peripheral surface thereof. The hole 71c extends through and across two horizontally aligned auxiliary passages 88a, 88b defined in the piston rod 59 and communicating with other auxiliary passages 88c, 88d defined in the piston rod 59 (see also FIG. 4). The auxiliary passage 88d communicates with the second hydraulic pressure chamber 57 through an orifice 88e. The first and second hydraulic pressure chambers 55, 57 are connected to each other through these auxiliary passages 88a, 88b, 88c, 88d.

The examiner has found that Majima et al teaches a valve for controlling fluids comprising a holder body (piston rod 59), a receptacle (storage chamber 67) containing a piezoelectric actuator unit (piezoelectric stack 67FL) and a hydraulic coupler module (piston 69, hydraulic pressure chamber 71, and sleeve 71a) that has at least one positioning piston (piston 69) and at least one actuating piston (sleeve 71a) that is operatively connected to the positioning piston via a hydraulic coupler (hydraulic pressure chamber 71) and actuates a valve-closure member (spool valve 77) that cooperates with at least one valve seat (hole 71c) and, in the closed position, prevents a flow of fluid from a valve chamber (hydraulic pressure chamber 55) to a return conduit (auxiliary passage 88c), a seal (O-ring seal 69b) guiding the positioning piston in the receptacle, wherein the positioning piston comprises an annular collar, which the examiner identifies as the upper half of piston 69, and a positioning washer,

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which the examiner identifies as the leaf spring 69a, wherein the receptacle (storage chamber 67) has a seal (O-ring 69b) disposed between the annular collar (the upper half of piston 69) and the positioning washer (leaf spring 69a).

Claim 8 has been amended to require "a positioning washer resting against a spring." In Majima et al, the (leaf spring 69a) is positioned in the hydraulic pressure chamber 71 between the bottom surface of the piston rod 59 and the lower surface of the piston 69. Neither the bottom surface of the piston rod 59 nor the lower surface of the piston 69 is a spring.

To support a rejection of a claim under 35 U.S.C. 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

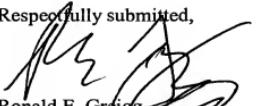
Majima does not teach a valve for controlling fluids of the type recited in claim 8 including a positioning piston having an annular collar and a positioning washer resting against a spring, and wherein a seal is disposed between the annular collar and the positioning washer. Accordingly, claim 8 and its dependent claims are not anticipated by the teachings of Majima.

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Entry of the amendment and allowance of the application are respectfully requested.

Respectfully submitted,


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